

Amendment and Response

Applicant: Cory Watkins et al.

Serial No.: 10/073,613

Filed: February 11, 2002

Docket No.: 1552-BZ

Title: CONFOCAL 3D INSPECTION SYSTEM AND PROCESS

REMARKS

This Amendment is responsive to the Office Action mailed March 1, 2004. In that Office Action, the Examiner noted the apparent absence of a drawing. The Examiner rejected claims 2-4 under 35 U.S.C. §102(b) as being anticipated by Kerstens et al., U.S. Patent No. 5,248,876 (“Kerstens”). Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kerstens in view of McCarthy et al., U.S. Patent No. 4,802,748 (“McCarthy”). The Examiner also rejected claims 1-5 under 37 C.F.R. 1.78(b) as conflicting with co-pending U.S. Patent Application Serial No. 10/073,656 (“the ‘656 Application”). Claims 2-5 were provisionally rejected under 35 U.S.C. §101 as claiming the same invention as that of claims 2-5 of the ‘656 Application. Claims 2-5 were provisionally rejected under 35 U.S.C. §101 as claiming the same invention as that of claims 3-6 of co-pending U.S. Patent Application Serial No. 10/196,741 (“the ‘741 Application”). With this Response, the drawing has been re-submitted; claims 2 and 4 have been amended; and claims 6 and 8 added. Claims 2 – 7 are pending in the application and are presented for consideration and allowance.

Drawings

In response to the Examiner’s request that a drawing be submitted to replace the apparently missing drawing, a replacement Figure 1 is included with this Response.

Double-Patenting Rejections under 35 U.S.C. §101

Applicant confirms that the ‘741 Application has now issued as U.S. Patent No. 6,773,935 (issue date of August 10, 2004) and that the ‘656 Application remains pending. Claim 2 of the pending application has been amended to recite correlating a first pixel with a first surface location and determining surface elevation upon confirming that first and second elevation light intensity measurements at the first pixel are not indicative of an out of focus position. Support for this language is found, for example, at page 9, line 34 – page 10, line 5. With these amendments, it is respectfully submitted that the claims of the pending application are not drawn to identical subject matter of the ‘741 Application or the ‘656 Application. As such, the double-patenting rejections under 35 U.S.C. §101 have been traversed.

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Claim Rejections under 35 U.S.C. §§ 102 and 103

It is affirmatively stated that the amendments to claim 2 have not been made to overcome the rejection over Kerstens. Instead, claim 2 as originally presented recites allowable subject matter for at least the reason that Kerstens does not teach using a Gaussian curve based upon the light intensities measured to determine an elevation of the surface. To the contrary, the plots of FIG. 7 of Kerstens reflect pre-determined data, unrelated to intensity measurements made during an actual inspection process of a surface in question (Kerstens, col. 7, lines 60 – 63). Kerstens essentially uses this pre-determined data as a form of look-up table to estimate height (Kerstens, col. 8, lines 12 – 17). Further, Kerstens does not teach or suggest correlating a first pixel with a first surface location or confirming that the first pixel light intensity measurements at the first and second elevations are not indicative of a out of focus position before determining the surface elevation. For at least these reasons, it is respectfully submitted that amended claim 2, and all claims depending there from, are in a condition for allowance. Further, it is respectfully submitted that the Examiner's rejection of claim 4 based on col. 8, lines 38 – 65 of Kerstens is misplaced. The cited language does not describe calculating the difference between intensity readings. Instead, the two intensity measurements are compared to one another to formulate a ratio (e.g., Kerstens at col. 8, lines 45 – 49 describes an intensity ratio of 4.7, which is determined by dividing a first intensity of 0.61 by a second intensity of 0.13). The intensity ratio is then compared to a look-up table to estimate height (Kerstens, col. 9, lines 1 – 7).

Newly Presented claims

Claims 6 and 7 depend from claim 2, and thus for at least the reasons provided above, are in a condition for allowance. Further, claims 6 and 7 recited limitation not taught or suggested by Kerstens.

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CONCLUSION

No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-0471.

The Examiner is invited to contact the Applicant's Representative at the below-listed telephone number if there are any questions regarding this response.

Respectfully submitted,

Cory Watkins et al.,

By their attorneys,

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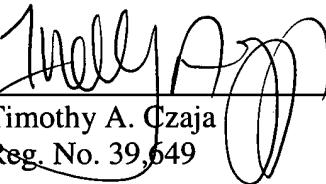
100 South Fifth Street

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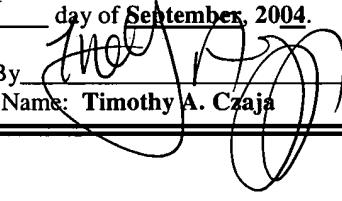
Facsimile: (612) 573-2005

Date: SEPTEMBER 1, 2004
TAC:jmc


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CERTIFICATE UNDER 37 C.F.R. 1.8:

The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 1st day of September, 2004.

By 
Name: Timothy A. Czaja

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IN THE DRAWINGS

Please replace Figure 1 with Figure 1 provided in the attached drawing sheet.